



**BETTER BASICS**  
LABORBEDARF

## INFORMATION

FOR UV RESISTANCE (LIGHT FASTNESS)

OF THE 3D-PRINTED COMPONENTS

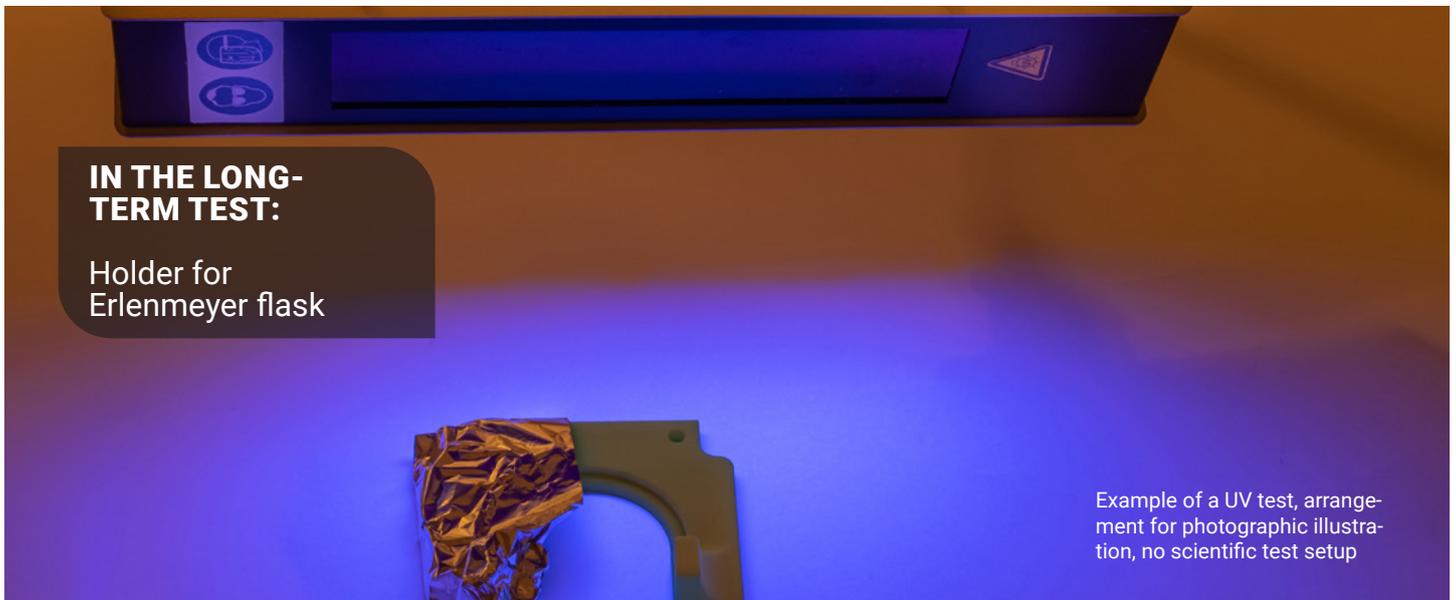


## INTERNAL UV RESISTANCE TEST

## BETTER BASICS LABORBEDARF

Example of a UV test, arrangement for photographic illustration, not a scientific test setup.

The products of Better Basics Laborbedarf use components made of polyamide-12 (PA12) in the selective laser sintering process (SLS-3D printing) as well as metal parts powder-coated with plastic. Both processes deliver long-term UV-resistant components.



## BETTER BASICS LABORBEDARF UV RESISTANCE TEST

### General

For the products of Better Basics Laborbedarf, components made of polyamide-12 (PA12) in the selective laser sintering process (SLS-3D printing) as well as metal parts powder-coated with plastic are used. Both processes deliver long-term UV-resistant components.

### Polyamide-12 (PA12) components made by the Selective Laser Sintering (SLS)

PA12 is an extremely tough polymer with very good weathering resistance. Weathering tests (ISO-4892-2) have shown that even after 10 years of continuous outdoor use, there is no reduction in the tensile strength of test specimens made of PA12 [1].

PA12 components from the SLS process are dyed green by Better Basics Laborbedarf before use in the laboratory. To protect the colour from fading, the components are treated in a second step with a UV-absorbing protective agent from the industrial sector. This absorbs radiation in the UV range very effectively and thus protects both the dye and the underlying component.

Weathering tests (ISO 11507) have shown that PA12 components treated with the UV protection agent have not shown any decrease in colour intensity after 500 hours of UV radiation exposure. It can therefore be assumed that the UV protection is very effective.

In a third step, the coloured PA12-SLS components are infiltrated with a protective polymer layer. This protects both the colour and the UV protective layer from detachment on contact with solvents and provides additional protection for the component.

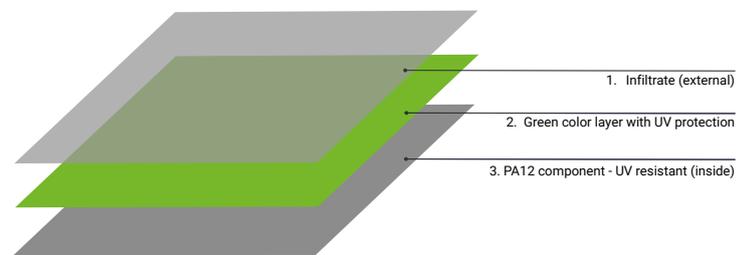


Figure 2:  
3-stage protection for PA12 components by Better Basics Laborbedarf

### Powder-coated metal components

The metal components used by Better Basics Laborbedarf are protected from corrosive environmental conditions by means of powder coating. Depending on the application, polyester or epoxy powder coatings are used, which are known for their high resistance to weathering and chemicals.

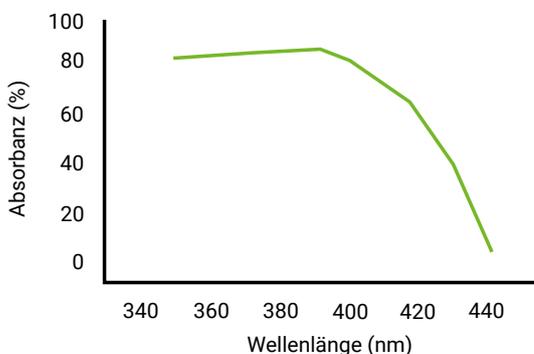


Figure 1:  
Absorption spectrum UV treatment agent PA12-SLS components

[1] <https://www.hwlok.com/de/technical-info/Material-PA12.html>



Photo: Building of Better Basics Laborbedarf GmbH in Dresden



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### Dr. Sebastian Stein

Sebastian Stein was born in Meissen and is now shareholder and production manager of Better Basics Laborbedarf GmbH. He completed his studies in polymer chemistry at the TU Dresden with a doctorate in the field of self-healing elastomers.

Today, he is responsible for additive manufacturing at Better Basics Laborbedarf. Here, the following 3D printing processes are currently used: SLS, FDM and SLA/DLP.

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### YOU ARE INTERESTED IN OUR PRODUCTS OR YOU HAVE FURTHER QUESTIONS?

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### Our request to you

A product like our SmartRack® is only as good as its users. With our roots in the Leibniz Institute for Polymer Research in Dresden, our company Better Basics Laborbedarf stands in the tradition of quality „Made in Germany“. We feel committed to this trademark of German companies, which stands for high innovative strength, in several respects. Even beyond our product catalog, the following applies to us at Better Basics: Simply contact us if you have ideas for extensions or improvements or if you notice something in your daily laboratory routine that we should urgently optimize.

We want to create the best possible working environment for you in the laboratory and we are grateful for every hint and your inspiration. Only in cooperation with scientists and researchers can we jointly shape the future of laboratory work. Just like you, we are always looking for a way to make our world a little better every day.

#### Impress:

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